

METHOD AND SYSTEM FOR DELIVERY AND MANAGEMENT OF  
INFRASTRUCTURE COMPONENTS AS THEY RELATE TO BUSINESS  
PROCESSES

CROSS REFERENCE TO RELATED APPLICATIONS

Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR  
DEVELOPMENT

Not Applicable

BACKGROUND

FIELD OF THE INVENTION

[0001] This invention relates to a method, and more particularly, to a system for the delivery and management of technical infrastructure components as they financially and operationally relate to a specific business process.

RELATED ART

[0002] Before the introduction of Information Technology (IT) into the business process, a company's strategic goals and objectives were realized solely through business management techniques. Business management was based, in part, on understanding and controlling every aspect of the business process. With the introduction of technology, IT professionals, whose knowledge of the business process was limited, gained influence over many tightly controlled tasks, which were once completely within the jurisdiction of business process owners. Much of the control over the business process shifted away from business process owners into the hands of IT. These same IT professionals, however talented and capable of designing and implementing business systems and

infrastructure, often lacked a necessary understanding of company strategies and business process critical success factors. This evolution has obviously placed significant dependence on the IT Organization, and has placed a significant value on effective IT infrastructure management techniques.

[0003] The larger and more complex a company's technical infrastructure becomes the more difficult it becomes to analyze and control costs, implement effective and efficient processes, and deliver value relative to the business strategy which technical infrastructure exists to support. The ability to determine how any single part of the technical infrastructure contributes to strategic business goals and objectives is often not possible. These limitations impact technology service and support organizations and their ability to deliver cost effective services, and the core business' ability to fully achieve strategic goals and objectives.

#### SUMMARY OF THE INVENTION

[0004] The preferred embodiment of the present invention is a fundamentally unique and proprietary methodology that creates a 13 Layer Dependency / Impact Hierarchical Model representing individual technical infrastructure components as they relate to individual business processes. The Business Technology Relationship Model (BTRM) Dependency / Impact Hierarchy considers every technical infrastructure component necessary to support any specific business activity, regardless of the variations or type of technology. The resulting hierarchy describes the inter-dependencies between various technical infrastructure components, and their potential operational and financial impact on specific business processes and business units.

[0005]        The BTRM Dependency / Impact Hierarchy provides a strategic view of how individual technical infrastructure components and services are delivered. For example, narrowing the focus of Information Technology (IT) support activities to the exact technical infrastructure dependencies of a single business process allows IT to align their efforts with those of the process, thus reducing the costs of technology services, and becoming a direct participant in business process's performance and critical success factors. The BTRM Dependency / Impact Hierarchy places technical infrastructure issues and support decisions in a strategic business context, driving technical infrastructure management from a strategic business perspective. The value of services and technical infrastructure components become obvious relative to the value of the core business they support.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0006]        FIG. 1 is a block diagram of the Business Technology Relationship Model (BTRM) static layers that are the framework for the BTRM Dependency / Impact Hierarchy.

[0007]        FIG. 2 is a block diagram representing the recursive process for identification of dependent objects in the BTRM Dependency / Impact Hierarchy.

[0008]        FIG. 3 is a block diagram representing the resulting identification of impact to dependent objects in the BTRM Dependency / Impact Hierarchy.

[0009]        FIG. 4 is a block diagram representing the process and method for creating the BTRM Dependency / Impact Hierarchy.

[0010] FIG. 5 is a block diagram of the file abstracts that occur within the BTRM Dependency / Impact Hierarchy Application Objects Layer.

#### DETAILED DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a block diagram of the 13 static layers of the Business Technology Relationship Model (BTRM). This framework supports the creation of the BTRM Dependency / Impact Hierarchy, which represents the relationships a specific technical infrastructure component(s), has to an individual business process(s). The drawing illustrates the Primary Model Layers (layers 1 through 6, and layers 8, 10, 11, and 13) and the Bridged Common Object Layers (layers 7, 9, and 12). As seen in FIG. 1, a Bridged Common Object Layer will contain a discreet BTRM Dependency / Impact Hierarchy within the Layer.

[0012] FIG. 2 is a block diagram representing the recursive process for the identification of dependent objects in the BTRM Dependency / Impact Hierarchy. The recursive process defines dependencies based on the Business Technology Relationship Model.

[0013] FIG. 3 is a block diagram representing the resulting identification of impact to dependent objects in the BTRM Dependency / Impact Hierarchy. Dependencies created using the BTRM Method, result in impact analysis. This impact analysis may be applied in numerous technology service delivery scenarios.

[0014] FIG. 4 is a block diagram representing the process and methodology for creating the BTRM Dependency / Impact Hierarchy beginning with an understanding and abstraction of business process layers, workflows, controls, performance indicators, etc. Once the business

process layers have been abstracted, the recursive identification of technical infrastructure component dependencies creates a view of how specific technical infrastructure components have an operational and financial impact on the specific modeled business process.

[0015] FIG. 5 is a block diagram of the file abstracts that occur within the BTRM Dependency / Impact Hierarchy Application Objects Layer. There are four possible Abstracts for Program and Data files as shown in FIG. 5. Each described as:

[0016] Abstract A is a Data file modeled above another Data file. This Abstract would be used when one Data file receives data from another Data file. The Data file receiving the data is indicating a dependency from which the data originates.

[0017] Abstract B is a Program file modeled above a Data file. This Abstract is used when a Program file reads, writes, edits, or deletes, data in a Data file. In Abstract B, the Program file has a dependency on the Data file. In Abstract B

[0018] Abstract C is a Data file dependent upon a Program file. This Abstract illustrates when a Program file reads, writes, edits, or deletes a Data file. In Abstract C the data file has a dependency on the Program file.

[0019] Abstract D shows a Program file dependent upon another Program file. This Abstract is used when one Program file calls or launches another Program file. In Abstract D the uppermost Program file has a dependency on the lower Program file.

## DETAILED DESCRIPTION OF THE INVENTION

### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0020] The method for creating the Business Technology Relationship Model (BTRM) Dependency / Impact Hierarchy forms the basis for business/technology alignment as seen in FIG. 4. When the method is placed in software, the BTRM Dependency / Impact Hierarchy is focused on aligning a specific technical infrastructure component, product, service deliverable, or management technique with a strategic business process, business unit, department, or business performance indicator. The method facilitates the population of BTRM Dependency/Impact Hierarchies, and allows for traversal down (dependency) and up (impact) of the hierarchies. (FIG. 2 and 3)

[0021] Once a BTRM Dependency Hierarchy has been created for a specific business process, and a Mechanism Object populates the top abstracted infrastructure object spot (most dependent), all other technical infrastructure objects placed in the hierarchy are done so traversing down the hierarchy, capturing all technical infrastructure object dependencies. Dependant technical infrastructure objects continue to be recursively captured down the Dependency Hierarchy until the bottom-most (least dependent) technical infrastructure component is defined, and no further dependencies can be named as shown in FIG. 2.

[0022] Once a Dependency Hierarchy is complete, a bottom-up Impact Hierarchy is determined by reversing the order in which dependency was defined, traversing up the Impact Hierarchy from the bottom-most (most impact-full) object as shown in FIG. 3.

## PARTICULAR IMPLEMENTATIONS OF THE INVENTION

[0023] The Business Technology Relationship Model (BTRM) Method may be implemented manually, but more particularly, in software. While various implementations of the present invention are described below, it should be understood that they are presented by way of example only, and not limitation. Therefore, the breadth and scope of the present invention should not be limited by any of the below described implementations, but should be defined only in accordance with the claims and their equivalents.

### Outsourcing Management

[0024] The BTRM Method supports technical infrastructure outsourcing decisions from a strategic business context, identifying those technical infrastructure components that contribute to strategic business initiatives and those that do not. Based on strategic business goals and objectives, the BTRM Method identifies technical infrastructure that business owners want to maintain control over, and technical infrastructure components that are candidates for outsourcing.

### Merger & Acquisition Management

[0025] The BTRM Method illustrates key business processes and the exact technical infrastructure components that support each of them. BTRM will identify which systems to keep, what data is important and how much integration is actually needed before companies are technically joined.

### Business Process Improvements

[0026] The BTRM Method presents information about the relationship between business processes and the exact technical

infrastructure they are dependent upon. Understanding the impact that discreet technical infrastructure has on specific business processes is critical to the business process improvement effort. The BTRM Method provides business owners and service providers a way to gain full engagement by Information Technology professionals in the business process improvement effort.

#### Systems Integration

[0027] The BTRM Method provides a tool to define 'as is' and 'to be' models of the exact technical infrastructure integration effort, reducing time needed for analysis, decision, and implementation.

#### Service Delivery and Process

[0028] The BTRM Method places technical infrastructure support processes and management in a strategic business context, providing the proper context when defining technical infrastructure support priorities. BTRM Dependency / Impact Hierarchies illustrate the exact delivery of technology linked to strategic business initiatives, and that which is not.

#### EDP Auditing

[0029] The BTRM Method produces a narrow view of the precise relationships between discreet technical infrastructure components and the specific business process they support. This Method provides focus to the EDP audit, that otherwise views technical infrastructure as a loose affiliation of systems, networks, applications, and business processes.

#### Disaster Recovery & Business Continuity Planning

[0030] The BTRM Method reduces the scope of the Disaster Recovery & Business Continuity, focusing the recovery effort to only those exact technical infrastructure components necessary to support business



process recovery targets, and eliminates those that don't. This Method reduces initial and on-going costs associated with Disaster Recovery & Business Continuity Planning.

#### Risk & Security Management

[0031] The BTRM Method supports Risk and Security Management by illustrating the operational relationships that exist between any specific business entity and the specific corporate data, technical infrastructure, and technical delivery of service that they are dependent on.

#### Business Impact Analysis

[0032] The viewing of BTRM Dependency / Impact Hierarchies automates the visualization of operational and financial impact specific technical services and infrastructure components have on specific business processes. This automation greatly reduces the time needed for analysis, decision, and implementation.

#### Knowledge Management

[0033] For business process owners, the BTRM Method unravels the complexities of technical infrastructure providing detailed information on the exact technical infrastructure components that support their process(s). BTRM Dependency / Impact Hierarchies contribute to new employees becoming productive more quickly, reducing the cost of training new employees, and securing strategic corporate knowledge when key employees leave.

#### Integration of Information Technology Service Management

[0034] The BTRM Method removes the silo'd approach to the management and delivery of technology services, placing all Service Management disciplines in the same delivery context. The following

managed services can be delivered from a common repository of BTRM Dependency / Impact Hierarchies.

#### IT Change Management

[0035] The BTRM Method creates a direct relationship between specific technical infrastructure components and strategic business processes. The Dependency / Impact Hierarchy identifies all business processes dependent on any individual technical infrastructure component. When placed in software, the BTRM Relationship Protocol automates the visualization of potential upstream, downstream, and in-stream business process impact. BTRM greatly reduces the time required to determine business impact from each proposed technical infrastructure component change.

#### Service Level Management

[0036] The BTRM Method compels specific and discreet technical infrastructure service level metrics into alignment with a specific business entity. The BTRM Method narrows the scope of Service Level Management, to only those technical infrastructure components and services that contribute to business process availability and performance.

#### Problem Management

[0037] The BTRM Method illustrates the exact business entity that is impacted by a technical infrastructure component failure or event. BTRM supports delivering Problem Management by enabling the prioritization of problem resolution efforts, based on the priority of the business process impacted.

## Event and Fault Management

[0038] Applying the BTRM Dependency / Impact Hierarchy to Event and Fault Management provides state propagation from an individual technical infrastructure component event, to business process impact. Metrics generated on technical infrastructure objects in the Dependency / Impact Hierarchy have absolute value relative to the business process(s) they support. The BTRM Method facilitates the creation of rules relative to state propagation and root cause analysis of technical infrastructure events, correlating technical infrastructure events with business process impact. This results in a visual representation of the relationship between Event and Fault Management metrics and Business Impact Analysis, illustrating business process performance, availability, Critical Success Factors, Key Performance Indicators, Business and Regulatory Controls, Policies, and Procedures.

## Asset and Inventory Management

[0039] The BTRM Method determines exact technical infrastructure cost metrics per business entity, determines the ongoing costs of legacy systems relative to the value of the business they support, identifies costs metrics associated with maintaining past investments, and identifies infrastructure components that no longer contribute to strategic goals.

## IT Impact Analysis

[0040] The BTRM Dependency / Impact Hierarchy defines the absolute relationships that technical infrastructure components have to one another, graphically representing their interdependencies, improving the decision, analysis, and implementation process.

### Root Cause Analysis

[0041] The BTRM Method supports the automation and correlation of events impacting multiple business processes. The automation of Root Cause Analysis is supported by the identification of specific technical infrastructure objects that are common across impacted business processes, and the lowest impacted object in the BTRM Dependency / Impact Hierarchy.

### Life Cycle Management

[0042] The BTRM Method provides a view of the on-going operational and financial impact of specific technical infrastructure components or groups of technical infrastructure components as they relate to the value of the specific business process they support.